STEM ecosystems
Cultivate. Learn. Innovate.

STEM Funders Network

STEM Learning Ecosystems Initiative

APPLICATION PROCESS

Invitation Only

2017

@stemecosystems www.stemecosystems.org info@stemecosystems.org

KEY APPLICATION DATES	
Launch Online Interest and Application Process Application Portal: www.stemecosystems.org	Tuesday, January 3, 2017
Initiative and Application Process Overview Webinar #1 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET Register: https://attendee.gotowebinar.com/register/2479785028385253379	Tuesday, January 31, 2017
Application Process Technical Assistance Webinar #2 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET Register: https://attendee.gotowebinar.com/register/7247535727259194883	Tuesday, February 21, 2017
Applications Due by 5:00pm PT Application Portal: www.stemecosystems.org	Wednesday, March 15, 2017
Selection announcement at US News STEM Solutions Conference in San Diego, CA	May 24-25, 2017
Community of Practice Convening #1	Fall 2017 (date and location TBA)
Community of Practice Convening #2	Spring 2018 (date and location TBA)

STEM Funders Network

The STEM Learning Ecosystems Initiative is supported by the STEM Funders Network.

The STEM Funders Network brings together grantmakers working in STEM to learn from one another, leverage their collective resources and collaborate on high-impact projects they could not undertake alone. The vision of the STEM Funders Network is that all U.S. students should have equal opportunity to engage in high-quality STEM learning experiences that will enhance their ability to succeed in a STEM career or other chosen path.

STEM LEARNING ECOSYSTEMS INITIATIVE YEAR THREE

I. BACKGROUND AND CONTEXT

The STEM Learning Ecosystems Initiative was built on the STEM Funders Network's investment in four critical reports in recent years. The following four reports have garnered widespread attention and have sparked robust discussion among STEM educators, policymakers, funders and other key stakeholders:

1. *Prepare and Inspire: K-12 Science, Technology, Engineering, and Math (STEM) Education for America's Future a report prepared by the President's Council of Advisors on Science and Technology*,
2. *How Cross-Sector Collaborations Are Advancing STEM Learning (2014)*,
3. *STEM Integration in K-12 Education: Status, Prospects, and an Agenda for Research (2014) a study by the National Academy of Engineering and the Board on Science Education of the National Research Council*, and
4. *STEM Learning Is Everywhere: Summary of a Convocation on Building Learning Systems (2014) report by the National Research Council.*

These reports all come to similar conclusions:

- STEM—science, technology, engineering and math—learning must be cross-disciplinary and integrated along all learning platforms, both in and out of school, over the learning continuum from Pre-K to post-secondary to workforce. The development of this core architecture is a critical condition to any success.
- Only through thoughtful and strategic planning and collective efforts will young people be able to engage fully in true project-based immersive learning experiences that stimulate their interest, enthusiasm and engagement leading to rigorous STEM learning.
- Young people can and should experience STEM learning everywhere. How can communities – across sectors – work together to cultivate a diverse array of connected STEM learning opportunities for every young person?

What is a STEM Learning Ecosystem?

A STEM Learning Ecosystem encompasses preK-16 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, intermediary and non-profit organizations or professional associations; businesses; funders; and informal experiences at home and in a variety of environments. A learning ecosystem harnesses the unique contributions of all these different settings in symbiosis to deliver STEM learning for all children. Designed pathways enable young people to become engaged, knowledgeable and skilled in the STEM disciplines as they progress through childhood into adolescence and early adulthood.

STEM Learning Ecosystems unite all community stakeholders to ensure that all students and people are engaged STEM learners who are competent and college and career ready, that the educational system and its out-of-school time partners are equipped with the resources they need to engage, teach and develop STEM competency, and that communities thrive through a robust and competitive STEM skilled workforce. These Ecosystems develop their knowledge, strengthen their persistence and nurture their sense of identity and belonging in STEM disciplines. Lastly, STEM Ecosystems enable young people to connect what they learn in and out of school with real-world learning opportunities, leading to STEM literacy, further education and careers.

Why Cultivate a STEM Learning Ecosystem?

The STEM Learning Ecosystem Initiative is designed to empower local communities to thrive through collaboration and communication to deliver results for students, educators and business leaders. The Initiative believes STEM Learning Ecosystems possess the tools and knowledge to create change. Just as STEM education has embraced innovation at the program level, it must also embrace innovation at the infrastructure level. Community partners across sectors must do more than merely coordinate efforts. Stakeholders must work cohesively at a new, deeper level to provide more students with quality learning in and out of school. It will require Ecosystem members to properly scale efforts to serve as many students as possible. Communities in collaboration are in the best position to change the conversation about quality growth for STEM education.

Suggested Ecosystem Design Principles

Although the STEM Funders Network recognizes that each STEM Learning Ecosystem is unique in design, theory and practice, we suggest the following design principles to help unify and define the Ecosystem concept.

Ecosystems already exist; we all live within them. Cultivating a STEM Learning Ecosystem to meet the needs of all young people requires intentional and strategic action toward shared goals.

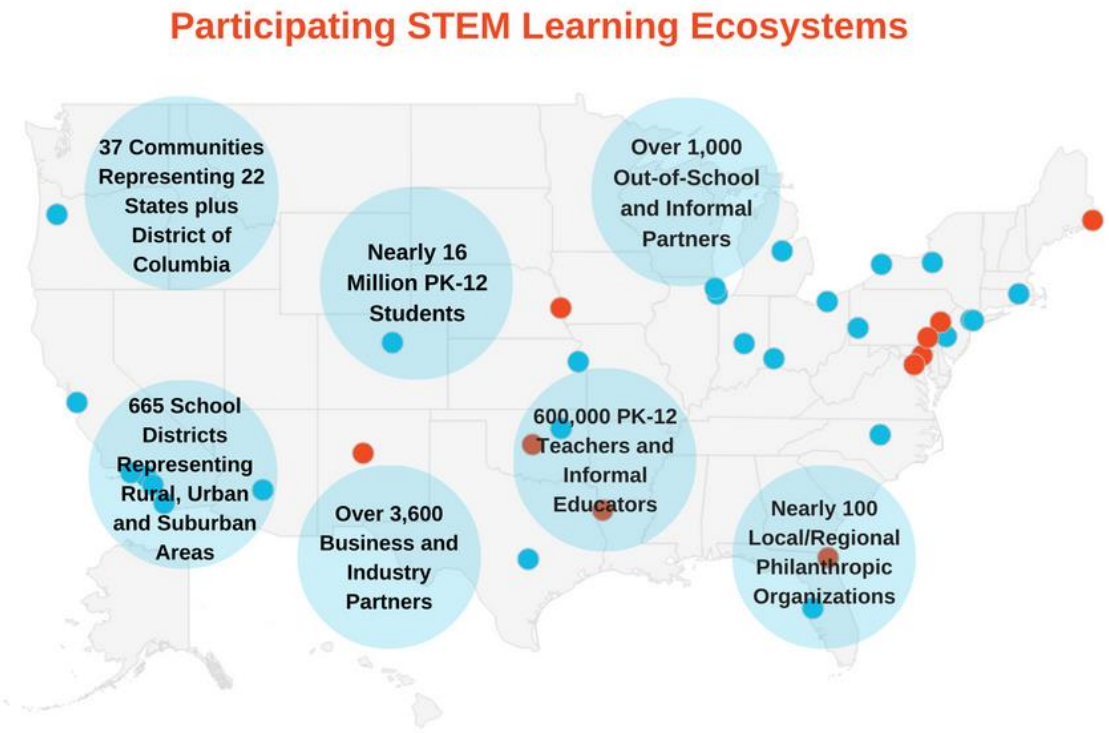
1. There is no one right way, no 'correct model' for cultivating STEM Learning Ecosystems.
2. Ecosystems are naturally complex and messy and not necessarily linear. The goal of Ecosystem cultivation is not to design the same STEM experience for all young people – but to maximize, grow and connect STEM learning opportunities so all young people have access to robust and connected learning experiences along pathways that are individualized according to their own interests.
3. Cultivating ecosystems requires dynamic leadership and diverse partners who share respect for each other's roles across sectors. The collaboration works by attending to the 'enlightened self-interest' of all partners.
4. Ecosystem cultivators embrace the values, beliefs, interests, and strengths of diverse cultures representative of the communities they serve. Non-traditional partners and creative new ways to partner across sectors are welcomed.
5. Identifying and eliminating barriers to equitable access to high quality STEM learning for all young people is a key driver of ecosystem cultivation.
6. STEM Learning Ecosystems are grounded by A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas (2012), Surrounded by Science: Learning Science in Informal Environments; Community Programs to Promote Youth Development (2002), and STEM Learning Is Everywhere: Summary of a Convocation on Building Learning Systems (2014) and other research about how young people learn and develop.
7. Practices promote active, inquiry-based learning to: 1) build students' competence and self-efficacy in STEM; (2) deepen their understanding of their current and future potential to solve complex problems; and 3) strengthen their social-emotional skills, including persistence, resiliency, creativity, problem-solving and collaboration.
8. Ecosystem cultivators value transparency and understand that intentional data sharing and data-based decision-making are critical to progress from the ecosystem that exists naturally to the robust ecosystem envisioned.
9. Collaborators prioritize time for reflection and peer exchange, among and between practitioners engaged in implementing specific cross-sector strategies, and organizational leaders focused on sustaining the effort.

Read more about Ecosystem Design Principles at www.stemecosystems.org.

II. INITIATIVE OVERVIEW

To be ready for the challenges and opportunities of tomorrow, the next generation needs to be equipped to make thoughtful decisions and solve problems. If our communities make sure that all learners have a chance to be immersed in STEM then we will develop the kinds of thinkers we need today and in the future. And we need to make sure that students can move through an ecosystem of learning opportunities to grow their knowledge and skills: schools, libraries, science centers and STEM-based businesses, to name a few.

The STEM Learning Ecosystems Initiative cultivates and supports nearly 40 local Ecosystems working to improve access to high-quality STEM learning for all students. Launched in September 2015 by the STEM Funders Network, the Initiative empowers communities to bring together unlikely local partners and create systemic change to ensure more students, particularly underserved and underrepresented students, develop the STEM knowledge and skills they need to learn and thrive in today's world. To visit a complete list of participating STEM Learning Ecosystems, visit: http://stemecosystems.org/first-community-of-practice/



Initiative Goals

The Initiative is designed to:

- Build out a National Community of Practice comprised of local, regional and state STEM Learning Ecosystems from across the country. Ecosystems encompass preK-16 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, intermediary and non-profit organizations or professional associations; businesses; funders; and informal experiences at home and in a variety of environments.

- Support communities in the design and cultivation of STEM Learning Ecosystems through expert technical assistance and coaching.
- Support selected STEM Learning Ecosystems to participate in a National Community of Practice to share successes, challenges and opportunities for growth.
- Inform the STEM education field about the importance of creating connected STEM-rich learning opportunities for children, youth and their families across the educational continuum from preschool through higher education and workforce.

Initiative Approach

Since 2015, the STEM Learning Ecosystems Initiative has cultivated and supported local, regional and state STEM Learning Ecosystems from across the country.

The Initiative is designed for communities to become an active member within a national network of their peers and STEM leaders in addition to participating in a graduated technical assistance and coaching program.

Membership to the National Community of Practice includes national convenings, webinars, and an online community and is built to encourage peer-to-peer support and mentoring. Membership into the National Community of Practice is supported by the Initiative for the first two years of a community's participation. Beginning in Year Three, communities will remain members of the National Community of Practice with all participants' benefits at membership cost, $2,000.

For Technical Assistance and Support, communities will receive two years of specialized coaching. During Year One, all communities will receive coaching that will include a combination of onsite and virtual technical assistance. Following completion of Year One, each community will graduate to a different level of technical assistance that will focus on virtual technical assistance only. By Year Three, each community will become an alumni and will have the opportunity to mentor new communities within the National Community of Practice. Communities can elect for more in-depth technical assistance for additional costs during any participating year. See Participation Benefits for more information.

III. PARTICIPATION BENEFITS

The STEM Learning Ecosystems Initiative supports emerging and established STEM Learning Ecosystems in the design and cultivation of local, regional and state ecosystems.

If selected, a community will become part of the National Community of Practice and participate in peer and expert-led technical assistance and support within the community and on an individualized basis. This is not a grant program but an opportunity for communities to join nearly 40 other STEM Learning Ecosystems in a National Community of Practice and two years of individualized technical assistance and coaching.

National Community of Practice

The National Community of Practice provides a peer-to-peer professional learning community for each participating ecosystem member to share information, seek guidance, and lend expertise to each other. Current Ecosystem members help shape the agenda for the National Community of Practice convenings, including identifying challenges and successes and lead Practice Groups. As a result, the National Community of Practice also provides access to STEM and cross-sector collaboration experts from across the country, including but not limited to: connections to the Common Core State Standards and Next Generation Science Standards; assessing and evaluating STEM Learning Ecosystems; developing and honing strategic approaches, and foundational principles of an ecosystem cultivation approach.

By joining the National Community of Practice, communities will gain access to:

National Convenings: Join STEM Learning Ecosystem members from the participating 37 communities at two National Community convenings hosted by the STEM Funders Network. Registration, meals, travel and hotel for two ecosystem members per site will be provided, and Ecosystems may bring additional members at the community's cost.

Community Website: Through a robust internal web-based platform, Ecosystem members can maintain communications via a discussion board, web-based practice groups, and calendar of events.

Peer Developed Resources: Ecosystem members share resources through the online community. Ecosystem members can upload documents, tools and other resources to share with each other.

Monthly Webinars: Ecosystems will have the opportunity to participate in monthly Community of Practice phone calls/web-based meetings with national, state and regional speakers (including grantmakers, STEM experts, cross-collaboration experts, education policy experts)

Lead STEM: Ecosystems will be invited to participate in a specialized annual STEM Leadership Program.

Ecosystem Design and Cultivation Technical Assistance

To support the design and cultivation of STEM Learning Ecosystems across the country, all selected Ecosystems will receive:

Coaching: A team of STEM and cross-sector collaboration coaches will provide technical assistance individualized to the needs of each community. The initiative will match each site with a coach based on the site's specific needs. The coach will support in the cultivation of each STEM Learning Ecosystem. The coach will act as the primary contact for the Ecosystem, maintaining contact through monthly calls, site visits, and more.

Peer Mentoring: Through their participation in the National Community of Practice, a number of STEM Ecosystems members with a variety of STEM content expertise and leadership skills have been identified as mentors for emerging STEM Learning Ecosystems. They may work with the coach or the communities directly, depending on the need.

Tools & Assessments: By participating in the STEM Learning Ecosystems Initiative, the selected STEM Ecosystems will have access to specially designed tools for cultivating STEM Learning Ecosystems. This includes the STEM Learning Ecosystems Indicators Tool, designed specifically for this Initiative.

Resources: Through partnerships with leading STEM experts from industry, associations, research, government and philanthropy, participating STEM Ecosystems will have access to new reports, research and announcements related to STEM Ecosystems. This includes the STEM Learning Ecosystems Communications Toolkit, which includes a messaging framework and templates for local customization.

Additional Participation Support and Resources

In addition to the National Community of Practice and Technical Assistance, the STEM Funders Network STEM Learning Ecosystems Initiative will also:

- Support in understanding federal, state and local STEM policy, research and funding landscapes and assistance in building sustainability.
- Support the recruitment of an AmeriCorps VISTA Member through a partnership with the Corporation for National and Community Service and Afterschool Alliance.
    - AmeriCorps VISTA Members may serve select STEM Learning Ecosystems. AmeriCorps VISTA projects generally have two main conceptual components: they (1) build the capacity of programs or organizations that (2) help individuals and communities out of poverty. AmeriCorps VISTA members are well-positioned to help communities develop, expand, and strengthen STEM ecosystem efforts by serving as a critical link to integrating STEM efforts within an ecosystem.

  The availability of this additional AmeriCorps VISTA resource is not confirmed and will be dependent upon commitment from additional partners.

Applicant Criteria

The STEM Funders Network is inviting communities to apply for this opportunity. All communities, regardless of the stage of their ecosystem development, are required to fully complete the application process to participate in this national initiative.

To be eligible for consideration, the applicant must meet the following criteria:

- Type of Organization: Applications will be accepted from the following types of organizations: (Please note: Lead applicant should be determined by community-based ecosystem and there shall be only one application per community.)
    - Non-profit organization, with a significant focus on and interest in STEM education, that is exempt (with Section 501(c)(3) designation) or public organization, or
    - Local educational agency (LEAs)
- Location: Applicants are expected to represent a wide community base, such as a city, region or state. An applicant such as a school within a larger school district, where the ecosystem initiative is limited to that school site only, for example, would not qualify. The intent is for ecosystems to represent communities with a diverse composition of community stakeholders and reach.
- Cross-Sector Partnerships: Applicants are expected to represent emerging or established collaborative relationships with their cross-sector counterparts and provide clear evidence how their connections support the development of their STEM Learning Ecosystem. Communities must demonstrate established or emerging relationships with multiple partners, including: preK-16 schools; community settings such as after-school and summer programs; institutions of higher education; STEM-expert organizations such as science centers, museums, corporations, intermediary and non-profit organizations or professional associations; businesses; funders; and informal experiences at home and in a variety of environments.
- STEM Learning Ecosystems Attributes and Strategies: Applicants should review Considerations for Communities, the Elements of a STEM Learning Ecosystems and STEM Learning Ecosystems Strategies located in the Appendices.

Participation Requirements

All selected STEM Learning Ecosystems will be expected to actively participate, including but not limited to:

- Administration:
    - Completion of an annual letter of expectation outlining participation benefits and expectations of sites.
    - Provide and maintain contact information for all identified leads.
    - Send out information to Ecosystem members, when necessary
- Coaching:
    - Actively engage with the assigned coach and the technical assistance team throughout the course of the initiative period.
- Active Participation:
    - Attend the two National Community of Practice convenings.
    - Participate on the monthly Community of Practice Webinars.

    - Sign-up on the internal online community website and actively engage including participating in online Community of Practice discussions and practice groups as relevant to your work.
- Deliverables:
    - Administration of the STEM Learning Ecosystems Indicators Tool virtually within the first 60 days and again in month 10 and a brief final narrative of the results due by June 1.
    - Completion of a draft STEM Ecosystem Planning Template by June 1.

Failure to meet accountability requirements will jeopardize potential future participation in this national effort with the STEM Funders Network.

Eligibility

To be eligible for consideration, the applicant must complete the following:

- Complete the brief Online Interest Form at www.stemecosystems.org.
- Participate in two webinars about Initiative: (All webinars will be posted at www.stemecosystems.org.)
    - Initiative and Application Process Overview Webinar #1 – Tuesday, January 31, 2017 at 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET. The webinar will be approximately 60 minutes. Registration required: https://attendee.gotowebinar.com/register/2479785028385253379
    - Application Process Technical Assistance Webinar #2 – Tuesday, February 21, 2017 at 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET. The webinar will be approximately 60 minutes. Registration required: https://attendee.gotowebinar.com/register/7247535727259194883
- Complete and submit application, including all supplemental materials via the online form by 5:00pm PT on Wednesday, March 15, 2017.

Review Criteria

The STEM Funders Network is seeking to understand your community's interest and honest assessment regarding your level of readiness in cultivating a STEM Learning Ecosystem. Each community will be reviewed individually by a review committee comprised of national STEM leaders and members of the STEM Funders Network. The STEM Funders Network does not expect every community to be fully developed and hopes the application process will be useful to applicants.

The review committee will be reviewing all application responses and supplemental materials. They will use the Considerations for Communities, the Elements of a STEM Learning Ecosystems and STEM Learning Ecosystems Strategies as guides in the review process. Please refer to the Appendices for more information.

IV. APPLICATION INSTRUCTIONS

The application process is designed to: (1) be collaborative in nature and (2) provide an opportunity for you and your partners to understand your community's level of readiness for potential inclusion into STEM Funders Network STEM Learning Ecosystems Initiative. In the past two years, we have received feedback that lead applicants and their community partners found the application process helpful in understanding their strengths and weaknesses in advancing STEM teaching and learning in their communities.

The STEM Funders Network is seeking to understand your community's interest and honest assessment regarding your level of readiness in cultivating a STEM Learning Ecosystem. We encourage communities in all stages of ecosystem development to apply. Therefore, we understand and expect diverse experiences and capabilities. The application and supplemental materials are designed to help your community partners engage in a self-assessment process, determine your level of readiness for participation in the Initiative, to spur conversation among your cross-sector partners, and to help the review committee understand where your community is so that we can effectively provide support as targeted to your community's needs and interests.

We anticipate this assessment to be completed with your stakeholders and partners. Accordingly, we advise that you plan ahead with your key partners for a collective response to the application, in particular the readiness assessment.

All questions from the online application are provided to you as a quide that you can work from with your partners. Each of these questions, will be asked on the online application.

The application and supplemental materials must be submitted via the online form by 5:00pm PT on Wednesday, March 15, 2017. Faxed or courier deliveries will not be accepted. Incomplete applications will also not be accepted.

Online Application Instructions

All applications must be submitted online at: www.stemecosystems.org. All invited communities will be provided a password with their invitation to apply.

Before you begin the application process, you will be required to create an account.

To create the account, you will be asked to generate a username and password with an email address. Once your account is created, you will be able to save and resume your application before you are ready to submit. The online application has been designed for applicants to save and return to your application at any time. To save the application, simply click "Save Progress" button at the bottom of the application screen.

Make sure to save before you exit the screen. You can log-in when you return to the application

The application is comprised of the following sections:

- Applicant Summary
- Your STEM Learning Ecosystem Snapshot
- Readiness Assessment
    - Key Partners
    - Elements
    - Focus Areas
- Initiative Expectations

Applicant Summary

Please provide the following information:

- Proposed or existing STEM Learning Ecosystem Name.
- Brief description of your proposed or existing STEM Learning Ecosystem. (200 words maximum) (This will be used on the website and other print materials, if selected.)
- Name of the city, county, region or state as defined in the application.
- Lead applicant agency/organization name, street address (and/or mailing address, if different); phone, website.
- Lead contact person name, title, phone number, and e-mail address.
- Tax ID number of applicant (Federal Employee Identification Number, or non-profit status, e.g. 501(c)(3)).

Your STEM Learning Ecosystem Snapshot

Please provide an overview of your emerging or established STEM Learning Ecosystem. Include quantitative and/or qualitative data, citing the specific source when possible.

Include the following elements:

- Describe the demographics of the area (city, regional, state) being served by your STEM Learning Ecosystem. (500 words maximum)
    a. Please include: youth (0-24) population size and demographics, including but not limited to: race, ethnicity, socio-economic status, education indicators, etc.
    b. If possible, please include:
        - Number of PK-12 school districts being served
        - Number of children and young people or students (0-24)
        - Number of teachers served
        - Number of out-of-school time programs/partners
- Describe your STEM Learning Ecosystem. (500 words maximum)
    a. Describe your key components, including but not limited to diverse stakeholders representing a variety of settings; shared vision and/or goals; design principles, etc.
    b. Identify key leaders, including but not limited to their individual and organizational capacity to design and cultivate STEM Learning Ecosystems.
    c. Identify content experts, including but not limited to partners with cross-sector collaboration expertise and STEM content expertise in a variety of learning contexts (professional development, workforce development, career technical education, etc.).
    d. If possible, please include:
        - Number of business and industry partners
        - Number of philanthropic partners

Readiness Assessment

The STEM Funders Network has developed a brief readiness assessment to help you as the applicant understand your community's own level of readiness for potential inclusion into the STEM Funders Network's STEM Learning Ecosystem.

We anticipate this assessment to be completed with your stakeholders. Accordingly, we advise that you plan ahead with your key partners for a collective response to the readiness assessment.

We recommend following the hard copy version to make sure you have all of your attachments ready when you begin the online application.

Key Partners

As communities begin to coalesce around the cultivation of a STEM Learning Ecosystem, there are a few critical elements that our research and experience have found are necessary. The first element is: identification of key partners.

a. How has your STEM Learning Ecosystem built relationships with key partners such as: PreK-12 school system; out-of-school time (after-school, summer learning, intermediaries, etc.) systems; STEM-expert institutions (museums, science centers, etc.); post-secondary or institutions of higher education; business or industry; parent serving organizations; public or private philanthropy; or local, regional, and state government? Please select "Yes" or "No."

b. And, how would you describe those relationships? Please select one response on a scale of 1-5, 1 being *Early Stages: No relationship* and 5 being *Later Stages: Our organizations plan and implement programs/practices/policies together on a regular basis*.

Key Partner	Currently engaged? *(Select one)*	Scale of 1-5 *(Please select one)* *1 = Early Stages: No relationship* *2 = Our organizations know of each other* *3 = Mid Stages: Our organizations have collaborated in the past* *4 = Our organizations interact on a regular basis* *5 = Later Stages: Our organizations plan and implement programs/practices/policies together on a regular basis*				
PreK-12 school system	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Out-of-school time (after-school, summer learning, intermediaries, etc.)	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
STEM-expert institutions (museums, science centers, etc.)	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Post-secondary or institutions of higher education	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Business or industry	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Parent serving organizations	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Public or private philanthropy	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Local, regional, or state government	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Optional: Please share information on any additional key partners not listed above. (200 words maximum)						

Key Partner	Currently engaged? *(Select one)*	Scale of 1-5 *(Please select one)* *1 = Early Stages: No relationship* *2 = Our organizations know of each other* *3 = Mid Stages: Our organizations have collaborated in the past* *4 = Our organizations interact on a regular basis* *5 = Later Stages: Our organizations plan and implement programs/practices/policies together on a regular basis*

LIST OF KEY LEADERSHIP AND PARTNERS

Please provide a list of key leadership and partners, including name, title, organization, email address, and cross-sector representation plus their contribution to your STEM Learning Ecosystem (50 words maximum) for at least four of the following (12 key leaders or partners maximum):

- Formal PreK-12 Learning (schools and school systems)
- Out-of-School Learning (out-of-school time and/or summer learning provided by schools or community-based organizations where available)
- STEM-expert organizations (science centers, museums, corporations, non-profit organizations or professional organizations)
- Business and industry
- Post-secondary STEM and higher education
- Local and/or regional public or private funder
- Local, regional, or state government
- Regional network/alliance
- Parent and family serving organization

LETTERS OF COLLABORATION

Upload at least three letters of collaboration from your partners through the online application portal. Letters of collaboration should: (maximum of 10 letters will be accepted).

Guidelines for Community Partners:

- Confirm the length and nature of your relationship with the organization (lead applicant), etc.;
- Provide evidence of past or current collaboration between your organizations;
- If applicable, provide information about your role in cultivating the STEM Learning Ecosystem (in-kind support, leadership, resource development, etc.); and
- Describe why you support the organization (lead applicant) to lead this work.

Letters can be addressed to Ron Ottinger and Gerald Solomon, Co-Chairs of the STEM Funders Network. The letters should be dated and signed.

The letters of collaboration can be uploaded in either Word or PDF file types.

Submissions that demonstrate support from different sectors and stakeholders within your STEM Learning Ecosystem will be viewed favorably.

Elements of a STEM Learning Ecosystem

The second component of the Elements for a successful STEM Ecosystem is the Attributes of such an ecosystem. These attributes have been found to be critical components.

a. *Do you currently have these attributes?* Please select "Yes" or "No."

b. *And, how would you describe the current status of these attributes for your community?* Please select one response on a scale of 1-5, 1 being *Early Stages: Not started* and 5 being *Later Stages: In place, engaged and functioning.*

Attributes	Currently engaged? *(Select one)*	Scale of 1-5 *(Please select one)* *1 = Early Stages: Not started* *2 = In process of identifying* *3 = Mid Stages: Beginning to have initial conversations* *4 = Have identified and are engaged on some regular basis* *5 = Later Stages: In place, engaged and functioning*				
Have you identified a leader(s)/champion(s) for your STEM Learning Ecosystem?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
If yes, please provide: (if more than one, please provide their information.) Name: _____ Organization: _____ Position or Title: _____ % of time dedicated to STEM Learning Ecosystem efforts: _____						
Do you have a shared vision among your stakeholders?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Do you currently have a strategic plan or business plan that demonstrates the shared vision?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
If yes, please upload a copy. (Word or PDF only)						
Do you have philanthropic or public sector support?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Describe your philanthropic partner support for the cultivation of STEM Learning Ecosystems. How will your philanthropic partners support your efforts? (200 words maximum)						
Do you have in-kind support from your stakeholders and partners?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
If yes, please provide a few examples that demonstrate in-kind support to help the cultivation of your STEM Learning Ecosystem. (200 words maximum)						
Optional: Please share additional information: (200 words maximum)						

Focus Areas of a STEM Learning Ecosystem

There are seven focus areas that the STEM Funders Network has found to be important in developing STEM Learning Ecosystems.

a. *Do you currently engage in efforts around any or all of these focus areas?* Please select "Yes" or "No."

b. *How would you describe the current status of these focus areas for your community?* Please select one response on a scale of 1-5, 1 being *Early Stages: Not started* and 5 being *Later Stages: In place, engaged and functioning.*

Focus Areas	Currently engaged? *(Select one)*	Scale of 1-5 *(Please select one)* *1 = Early Stages: Not started* *2 = In process of identifying* *3 = Mid Stages: Beginning to have initial conversations* *4 = Have identified and are engaged in implementing* *5 = Later Stages: In place and functioning*				
Is your STEM Learning Ecosystem currently engaged in building the capacity in all sectors?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently providing professional learning or professional development equipping educators with tools and structures to enable sustained collaboration?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently linking in and out-of-school STEM Learning?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently creating learning progressions that connect and deepen STEM experiences over time?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently focusing instruction on inquiry, project-based learning and real-world connections to increase relevance?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently engaging families and communities?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						

Focus Areas	Currently engaged? *(Select one)*	Scale of 1-5 *(Please select one)* *1 = Early Stages: Not started* *2 = In process of identifying* *3 = Mid Stages: Beginning to have initial conversations* *4 = Have identified and are engaged in implementing* *5 = Later Stages: In place and functioning*				
Is your STEM Learning Ecosystem currently exposing young people to potential STEM careers?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Please provide a brief description: (200 words maximum)						
Is your STEM Learning Ecosystem currently engaged in sustainability planning and efforts?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Describe your plan to sustain your STEM Learning Ecosystem beyond your participation in the STEM Funders Network STEM Learning Ecosystems Initiative. Are there opportunities to build upon the STEM Learning Ecosystem? (500 words maximum)						
Is your STEM Learning Ecosystem currently engaged in evaluation efforts?	☐ Yes ☐ No	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Briefly describe any evaluation planning, including tools, measurements, and partners your STEM Learning Ecosystems are currently engaged with: (500 words maximum)						
PRIORITY AREAS Describe your STEM Learning Ecosystem's three key priorities. (500 words maximum) • Describe three key priorities or already established shared goals specifically that your STEM Learning Ecosystem is addressing or intends to address in the near future (as part of the Initiative).						

Initiative Expectations

The STEM Funders Network STEM Learning Ecosystems Initiative will support communities in the design and cultivation of their ecosystems through membership into the National Community of Practice and provision of technical assistance.

- Describe how your Ecosystem would contribute to the National Community of Practice. (500 words maximum)
    a. Include how your STEM Learning Ecosystem will benefit from participating in the National Community of Practice.
- Describe how your Ecosystem would utilize the two years of focused Technical Assistance. (500 words maximum)
    a. Include how your STEM Learning Ecosystem will benefit from two years of Technical Assistance.

V. WEBINARS

The STEM Funders Network STEM Learning Ecosystems Initiative will provide technical assistance for the application process via webinar, where staff and funding members will provide an overview of the project, submission guidance and opportunity for questions.

Two webinars will be offered:

- Initiative and Application Process Overview Webinar #1 – Tuesday, January 31, 2017 at 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET. The webinar will be approximately 60 minutes. Registration required: https://attendee.gotowebinar.com/register/2479785028385253379.
- Application Process Technical Assistance Webinar #2- Tuesday, February 21, 2017 at 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET. The webinar will be approximately 60 minutes. Registration required: https://attendee.gotowebinar.com/register/7247535727259194883.

A recording of each webinar will be made available to all applicants shortly following the sessions. In addition, the STEM Funders Network will post Frequently Asked Questions at www.stemecosystems.org. Questions can be submitted via the online form at www.stemecosystems.org.

VI. SUBMISSION PROCESS

The application and supplemental materials must be submitted via the online form by 5:00pm PT on Wednesday, March 15, 2017. Faxed or courier deliveries will not be accepted. Incomplete applications will also not be accepted.

VII. SELECTION PROCESS

Your application will be reviewed by the STEM Funders Network as well as select individuals with experience in cross-sector collaborations and current STEM Learning Ecosystems. Further information or revisions may be requested from applicants. The estimated selection process timetable shall be as follows:

KEY APPLICATION DATES	
Launch Online Interest and Application Process Application Portal: www.stemecosystems.org	Tuesday, January 3, 2017
Initiative and Application Process Overview Webinar #1 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET Register: https://attendee.gotowebinar.com/register/2479785028385253379	Tuesday, January 31, 2017
Application Process Technical Assistance Webinar #2 10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET Register: https://attendee.gotowebinar.com/register/7247535727259194883	Tuesday, February 21, 2017
Applications Due by 5:00pm PT Application Portal: www.stemecosystems.org	Wednesday, March 15, 2017
Selection announcement at US News STEM Solutions Conference in San Diego, CA	May 24-25, 2017

VIII.CONTACT INFORMATION

For questions regarding the application process, please visit www.stemecosystems.org for more information or email info@stemecosystems.org.

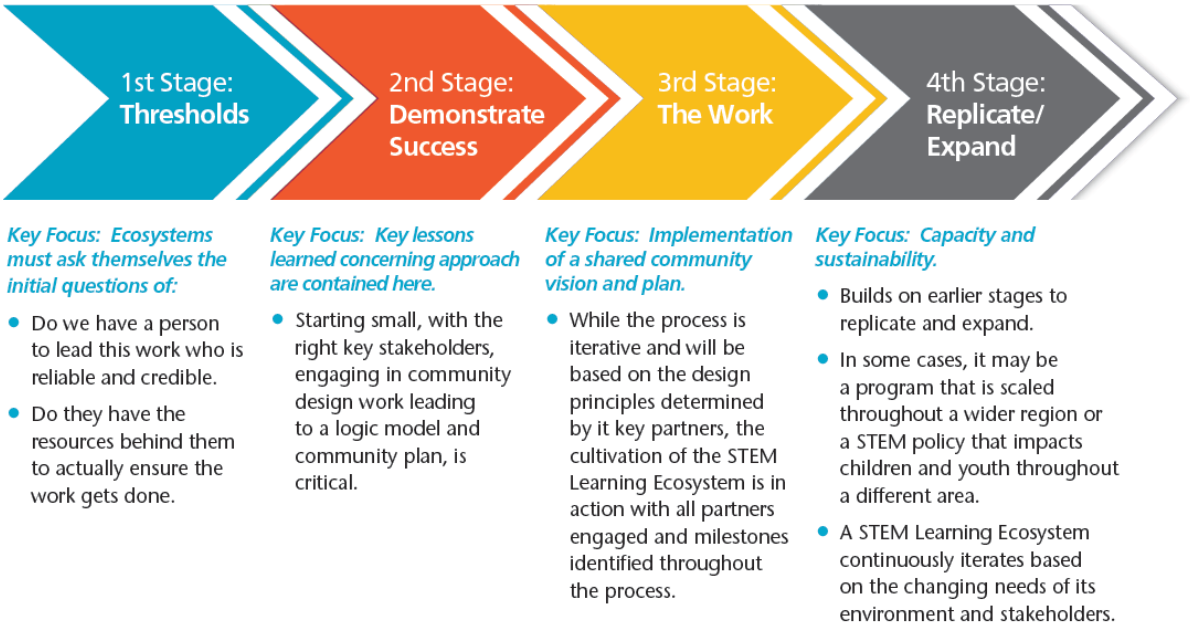
IX. APPENDICES

Recommended Reading

Considerations for Communities: Lessons from Years 1 & 2

Overall, the nearly 40 communities selected in Years One and Two have made great strides in the cultivation and design of their respective STEM Learning Ecosystems. In looking at inviting a new set of communities into the Initiative, the STEM Funders Network has developed the following "lessons learned" approach that should act as a guide for all communities applying for inclusion in the STEM Learning Ecosystems Initiative.

LESSONS LEARNED GUIDE



1ST STAGE: THRESHOLD

At this first stage, communities must ask themselves the initial questions of: (1) *do we have a person to lead this work who is reliable and credible and (2) do we the resources behind us to actually ensure the work gets done.*

- Do we have an anchor/project leader?
- Do we have capacity for administration of the Ecosystem (committees, work groups, etc.)? Is there funding to support the project management?
- Do we have a backbone organization?

2ND STAGE: DEMONSTRATE SUCCESS

Key lessons learned concerning approach are contained here. Starting small, with the right key stakeholders, engaging in community design work leading to a logic model and community plan, is critical.

- Start small
- Identify defined area/region to start
- Enlist the right key partners onto the bus
- Engage in "community design"...build buy-in, consensus & commitment
- Create Logic Model/Implementation Plan

3RD STAGE: THE WORK

The third stage is characterized by implementation of a shared community vision and plan. While the process is iterative and will be based on the design principles determined by it key partners, the cultivation of the STEM Learning Ecosystem is in action with all partners engaged and milestones identified throughout the process.

- Launch the ecosystem work (demonstration)
- Have a "S.M.A.R.T." (Specific, Measurable, Attainable, Relevant, and Time-Bound) Focus
- Recognize it's a "slog" (slow and messy)
- Share successes and challenges, internally & externally

4TH STAGE: REPLICATE/EXPAND

The fourth stage is about capacity and sustainability. It builds off the work from each of earlier stages to support the expansion of the STEM Learning Ecosystem. In some cases, it may be a program that is scaled throughout a wider region or a STEM policy that impacts children and youth throughout a different area. A STEM Learning Ecosystem continuously iterates based on the changing needs of its environment and stakeholders.

Elements of a STEM Learning Ecosystem

The basic building blocks of a connected STEM Learning Ecosystem can be categorized into three primary areas: (1) Key Partners; (2) Critical Attributes; and (3) Focus Areas.

Cultivating a STEM Learning Ecosystem requires at least one organization to be the community influencer and champion. He/she can articulate, persuade and lead the charge. In coalescing key partners within the STEM Learning Ecosystem, it is equally important for ecosystem members to pay attention to enlightened self-interest of all key partners, as the collective efforts should support individual organizations' missions. A third critical attribute is coalescing support from philanthropic and public sector support, including in-kind support from key partners to advance the STEM Learning Ecosystem.

Key partners are determined by individual communities, however, critical partners include PreK-12 school system, out-of-school time, and STEM expert museums.

When key partners have been identified and the critical attributes secured, members can begin to work together to design and implement focus areas.

STEM LEARNING ECOSYSTEM ELEMENTS

KEY PARTNERS	CRITICIAL ATTRIBUTES	FOCUS AREAS
1. PreK-12 school system receptive to external partnerships 2. High-quality out-of-school time/youth development system and programs 3. STEM-expert museums, science centers, professional associations, and businesses 4. Institutions of higher education 5. Private sector STEM-focused businesses 6. Parent and community-based organizations	1. Anchored by a passionate leader(s) with a collaborative vision and practice 2. Attentive to the enlightened self-interest of all partners 3. Philanthropic and public sector support and in-kind resources	1. Building the capacity of educators in all sectors. 2. Equipping educators with tools and structures to enable sustained collaboration. 3. Linking in- and out-of-school STEM learning. 4. Creating learning progressions that connect and deepen STEM experiences over time. 5. Focusing instruction on inquiry, project-based learning and real-world connections to increase relevance. 6. Engaging families and communities. 7. Exposing young people to potential STEM careers.

To learn more, download How Cross-Sector Collaborations are Advancing STEM Learning.

Submission Checklist

The STEM Funders Network has provided you with this checklist to help you successfully complete your submission. This is for reference only; you do not need to include this checklist in your final submission package.

Pre-Application

- ☐ Submit online interest form on www.stemecosystems.org.
- ☐ Attend both technical assistance webinars (See Webinars for more information).
    - Tuesday, January 31, 2017: Initiative and Application Process Overview Webinar #1
      10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET
      Register: https://attendee.gotowebinar.com/register/2479785028385253379
    - Tuesday, February 21, 2017: Application Process Technical Assistance Webinar #2
      10:00am PT | 11:00am MT | 12:00pm CT | 1:00pm ET
      Register: https://attendee.gotowebinar.com/register/7247535727259194883

Application Process

- ☐ Create Account for Online Application at www.stemecosystems.org
- ☐ Complete and Submit Online Application Components:
    - Applicant Summary
    - Your STEM Learning Ecosystem Snapshot
    - Readiness Assessment
        - Key Partners
            - List at last four key partners
            - Upload at least three letters of collaboration
        - Elements
            - Upload strategic plan or business plan, if applicable
        - Focus Areas
            - Priority Areas
- ☐ Initiative Participation